FISH PASSAGE CENTER

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MEMORANDUM

TO: Laurie Porter, CRITFC
Greg Silver, CRITFC

FROM: Michele DeHart

DATE: March 7, 2023

SUBJECT: Response to 2023 lamprey tissue sample collection at BON, MCN, and LWG

In response to your request (attached for reference), the Fish Passage Center (FPC) staff has coordinated with the Smolt Monitoring Program (SMP) staffs at Bonneville (BON), McNary (MCN), and Lower Granite (LGR) dams regarding the provision of non-lethal fin clips from juvenile and larval lamprey from the SMP sample, for genetic analyses. Like in 2022, these three SMP sites may provide fin clips from larval and juvenile lamprey from the SMP sample, but sample rates and sample schedules will not be adjusted to acquire larval or juvenile lamprey for this request. Sampling schedules and daily sample rates at these sites will be chosen based on SMP data needs and salmonid passage rates. Whatever lamprey specimens are available from normal SMP sampling can be used for genetic sampling, up to daily target sample sizes identified in your request. An increase in sample rates or changes in sampling schedules to acquire a target number of larval or juvenile lamprey would increase handling of listed salmonids and, therefore, require separate permits for not only the lamprey but also the listed salmonids. We understand that these lamprey genetic samples will be collected secondarily to the Smolt Monitoring Program normal work tasks and therefore will not require additional staff time, additional sampling, or additional funding.

Per our ODFW handling permit for sampling at MCN, we are required to provide electronic copies of raw genetic data and a detailed description of the methods and conditions used to generate genetic results or copies of reports or publications utilizing information obtained from these samples to the Oregon State Fisheries Geneticist, Dr. Kathleen O'Malley. Like we did in 2021 and 2022, FPC has contacted Dr. O'Malley and directed her to CRITFC for this information.

We hope that this opportunistic sampling will facilitate the Lamprey study in 2023. The Lamprey Study is important and, as the project moves into the active tag phase, reliance on other programs such as the Fish and Wildlife Program, Smolt Monitoring Program, or the US Army Corps of Engineers Condition Monitoring Program could be problematic.

CC: Allan Martin, PSMFC
Chris Wheaton, PSMFC
Charlie Morrill, WDFW
Scott St. John, Fish Biologist, NWW Operations Division, COE
Tammy Mackey, Fish Section Chief, NWP Operations Division, COE
Andrew Derugin, Supervisory Fish Biologist, COE (Bonneville Dam)
Elizabeth Holdren, Supervisory Fish Biologist, COE (Lower Granite Dam)
Bobby Johnson, Supervisory Fish Biologist, COE (McNary Dam)
Paul Burke, PSMFC (SMP at Lower Granite Dam)
Dean Ballinger, PSMFC (SMP at Bonneville Dam)
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March 2, 2023

Michele Dehart, Manager
Fish Passage Center
847 NE 19th Avenue, Suite 250
Portland, OR 97232
MDehart@fpc.org

RE: 2023 Lamprey tissue sample collection at BON, MCN, and LWG

Dear Ms. Dehart:

The Columbia River Inter-Tribal Fish Commission (CRITFC) requests approval for Smolt Monitoring Program (SMP) staff to collect non-lethal tissue samples from juvenile and larval Pacific lamprey. Sampling would occur during routine SMP activities at Bonneville (BON), McNary (MCN), and Lower Granite (LWG) dams from March through October 2023.

The Smolt Monitoring Program (SMP) is coordinated by the Fish Passage Center (FPC), Pacific States Marine Fisheries Commission (PSMFC), and the U.S. Army Corps of Engineers (USACE). The lamprey tissue samples are a critical component of CRITFC's regional Pacific lamprey parentage-based genetics monitoring program. CRITFC is requesting tissue collection from a representative sample of up to 20 juvenile and 20 larval lamprey per day at BON and MCN on the Columbia River, and up to 10 juvenile and 10 larval lamprey per day at LWG on the Snake River (sampling proposal enclosed). Total collections at BON and MCN dam are each not expected to exceed 1000 juvenile and 500 larval tissue samples. Total collections at LWG Dam are not expected to exceed 2000 juvenile and 1000 larval tissue samples.

Smolt monitoring program samples at Columbia and Snake River dams are currently the only source for obtaining accurate biological information of larval and juvenile Pacific lamprey downstream migration through the mainstem, larval and juvenile mainstem relative abundance, and tissue sampling for subsequent genetic stock analysis. Genetic stock analysis, primarily conducted using parentage analysis of lampreys collected at mainstem dams, provides critical information for CRITFC-Tribal lamprey restoration programs.

These genetic data have proven vital for effective monitoring and evaluation of CRITFC member tribes' Pacific lamprey programs, including translocation and supplementation, strategies the tribes have been using for many years to boost abundance of this species in the interior Columbia and Snake river basins. This information is key to determining the efficacy of lamprey management actions and may be used to adaptively manage various restoration and conservation actions. These samples also allow further refinement of lamprey life history attributes in the

Columbia and Snake river basins including length at age, age at metamorphosis and outmigration, differential growth among natal rearing sites, and tributary of origin.

Brief sampling protocol:
A non-lethal fin clip (1-2 mm diameter) will be collected from already anesthetized lamprey after condition monitoring is complete (additional 5-10 seconds of fish handling). After tissue sample collection, the fish will be returned to the SMP recovery tank. Tissues will be stored dry on sheets of Whatman paper and do not require additional solutions or chemicals. CRITFC staff will not require access to any Corps projects or facilities for this work but will provide remote assistance to SMP staff as needed (i.e., shipping Whatman sample sheets and scissors, providing sampling instructions, picking up Whatman sheets at year end if needed). At the conclusion of the SMP season, genetic samples will be shipped to CRITFC (at CRITFC's expense).

If you require further information or have any questions, please contact Greg Silver (the CRITFC point of contact for this work) or Laurie Porter (CRITFC Lamprey Project Lead) at:

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Sincerely,

Aja K. DeCoteau
Executive Director

Cc: Brandon Chockley, Fishery Biologist, Fish Passage Center, bchockley@fpc.org

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